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## **Get the Facts on the NorthernStar Liquefied Natural Gas Project Proposed for the Santa Barbara Channel**

*A fact sheet prepared for Santa Barbara Channelkeeper ([www.SBCK.org](http://www.SBCK.org)) by the Environmental Defense Center, Santa Barbara, CA ([www.EDCnet.org](http://www.EDCnet.org))*

### **WHAT IS LIQUEFIED NATURAL GAS (LNG)?**

- LNG is natural gas that has been "supercooled" to approximately -260°F. to be condensed into its liquid form for trans-oceanic shipping. LNG is a fossil fuel produced from on- and offshore drilling, just like other oil and gas supplies.
- After transport, LNG must be re-warmed and vaporized, or "regasified," before it can be distributed via pipeline for use by consumers.
- LNG exporting nations are many of the same that export oil. Russia, Qatar and Iran hold almost 60% of global gas reserves. Many gas fields and liquefaction facilities slated for LNG production are located within ecologically sensitive, currently undeveloped environments.

### **WHAT IS THE NORTHERNSTAR LNG PROJECT?**

- Texas-based NorthernStar Natural Gas Inc. proposes to convert Platform Grace (at right)— a nearly 30-year-old oil production facility located offshore Santa Barbara and Ventura Counties, and 3 miles from the Channel Islands National Marine Sanctuary— into an LNG receiving and reprocessing terminal. The proposed facility would be the first of its kind in the world.
- Aircraft carrier-sized supertankers would enter the Santa Barbara Channel 2-3 times per week to deliver LNG, docking one to two at a time at newly built berthing platforms moored to the seafloor.
- The supertankers are proposed to travel along, and regularly cross, the existing shipping lanes, navigate around other nearby oil platforms (Gail and Gilda), and pass directly through the Channel Islands National Marine Sanctuary.
- The supercooled LNG would be offloaded from the docked supertankers via a complex underwater system, into the platform-based terminal. There it would be regasified and transported to shore near Oxnard via a new, subsea gas pipeline.
- Once ashore, the natural gas would continue through more than 60 miles of new high-pressure gas pipelines, running between Oxnard and Santa Clarita, before connecting to existing natural gas infrastructure.
- NorthernStar proposes a 30-year lifespan for the LNG terminal. However, the deepwater port license would have no expiration date.





## **WHAT ARE THE PROBLEMS WITH LNG?**

- LNG proponents misleadingly describe it as a "clean fuel." LNG, like oil or coal, is a **non-renewable fossil fuel**. LNG causes air and water pollution, harms wildlife, and degrades the environment, from the remote locations where the gas is extracted and liquefied, to the coastal environments and communities where it is delivered, re-processed and distributed.
- The complex, energy-intensive supply chain required for production and transport of LNG causes significantly greater greenhouse gas emissions than domestically produced conventional natural gas, in some cases rivaling coal in total greenhouse gas emissions.
- LNG importation increases U.S. dependence on foreign countries for electricity production and heating (similar to our dependence on foreign oil for transportation).
- According to Sandia National Laboratory, if LNG is released by accident or intentionally (e.g. through deliberate attack or sabotage), it can burn at extremely high temperatures, or evaporate and ignite in immense and catastrophic "cloud fires." LNG accidents have caused loss of life and property around the world, including in the U.S.

## **SHOULD I BE CONCERNED ABOUT THE "CLEARWATER PORT" PROJECT?**

- In application materials submitted by NorthernStar to the California State Lands Commission and the U.S. Coast Guard (the two lead agencies in charge of reviewing the proposal), the company specifies an array of industrial construction and operation activities that could cause **significant impacts to air and water quality, public safety, marine life, coast and ocean views, Channel and Island recreation, mainland watersheds, and agriculture**.
- The project's immense scale and complex, energy-intensive supply chain suggest that it would contribute significantly to California's total greenhouse gas emissions, and produce more greenhouse gas emissions per unit of energy than domestic natural gas supplies, further exacerbating global warming.
- Despite being asked to bear the burden of these impacts, South Coast residents have no guarantee that the imported gas will reduce energy prices or provide any significant benefit to their communities. Not only can LNG supplies be withheld by exporting nations for political reasons, but LNG deliveries can be readily diverted to other countries willing to pay a higher price.
- Experts have expressed serious concerns about the structural integrity of Platform Grace, an already aged facility, and questioned its suitability to be converted to a use for which it was never intended. NorthernStar admits that it will have to conduct extensive retrofitting of the platform's legs and jacket to strengthen the structure.

### **Public Safety**

- The LNG terminal would be located near the Santa Barbara Channel's heavily traveled shipping lanes, affecting the navigation of commercial, recreational, and U.S. Navy vessels in Southern California due to the large "exclusion zone" that would be established to prevent vessels from approaching the facility.
- LNG tankers would regularly carry full loads directly across the shipping lanes.



- An accident at the proposed terminal or on an LNG tanker could endanger commercial and private vessels, and threaten mariners with asphyxiation or burns from a natural gas fire.
- A recent report by the U.S. Government Accountability Office (GAO) states that existing LNG risk assessment models are not sufficiently conservative to protect public safety, and that further analysis is necessary to adequately predict the risks to the public from LNG facilities.
- According to the U.S. Geological Survey, the likelihood of a "damaging" earthquake (magnitude 6.5 or larger) occurring in the vicinity of the proposed project in the next 30 years is greater than 35%.
- The construction and operation of more than 60 miles of onshore high pressure gas pipeline also represents potentially serious threats to human safety, and could disproportionately impact low income communities.

### ***Air Pollution***

- Operation of the project terminal, LNG tankers, and tug boats would emit significant levels of harmful air pollutants, including ozone pollutants.
- Ozone is a major component of smog and impairs human health, agriculture, and vegetation.
- Project air pollutants would transport to, and impact the onshore air quality in Ventura county and Santa Barbara County.
- Both Counties are still struggling to meet government clean air standards, including ozone levels.

### ***Impacts to Water Quality and Marine Wildlife***

- NorthernStar's LNG terminal is to be sited in the midst of one of the world's richest and most diverse marine ecosystems. The nearby Channel Islands National Park and Marine Sanctuary were designated to protect and conserve these extraordinary natural resources. The NorthernStar terminal would be sited just beyond their borders, and the LNG tankers would travel through the Sanctuary itself. The project's industrial operations, tanker traffic and pollution could degrade these natural treasures.
- Construction and operation of the project could impair ocean water quality in several ways:
  - Installation of the terminal and floating LNG tanker docks could disturb debris mounds left over from oil production activities, re-suspending toxic pollutants;
  - Construction accidents or large vessel anchoring could damage the active oil pipelines near Platform Grace, risking oil spills that could devastate nearby marine life and habitats. Accidental diesel or bunker fuel spills from the numerous tankers, tugs and construction vessels could result in similar impacts;
  - "Horizontal boring" proposed to install the gas pipeline under Mandalay Beach could result in significant discharges of drilling fluids and sediments.
- Intake of millions of gallons of seawater annually for LNG tanker ballast would kill larval fish and other planktonic marine life throughout the life of the project.
- Endangered blue, fin and humpback whales, federally protected gray whales, and numerous other marine mammal species commonly inhabit the proposed project area. Underwater noise from construction and operation of the terminal will exceed



current ambient noise levels and could disrupt migrations and other important behaviors, cause habitat abandonment, or even physical harm.

- NOAA Fisheries, the federal agency in charge of protecting endangered marine life, has stated that LNG tanker traffic poses a significant threat of collisions, or "shipstrikes," to whales and sea turtles. Greater ship traffic in Channel waters increases the likelihood of collisions like those that killed several blue whales (an endangered species) in the Santa Barbara Channel in September 2007.
- According to regulators, in the event of a serious LNG spill, exposed marine wildlife could suffer harmful or fatal freezing, asphyxiation from the evaporating methane, or burns from high-intensity fires even at a significant distance from the accident.

### **Global Warming**

- Use of LNG produces significantly more greenhouse gas emissions than use of domestic gas, because of the tremendous energy required for liquefaction, trans-oceanic shipment, and regasification of the fuel prior to consumption. Researchers at Carnegie Mellon University concluded that, when used as fuel for electricity generation, imported LNG approaches coal in lifecycle greenhouse gas output.
- Research on a similar-sized LNG proposal (the defunct Cabrillo Port project) revealed that importing LNG from overseas to California may generate up to 25 million tons per year of greenhouse gas emissions, from extraction to consumption. This equates to the quantity emitted by approximately 3.5 million cars per year, or around 5% of the total, statewide emissions in 1990. Such emissions could impair California's ability to comply with AB32, which requires that the state return to its 1990 greenhouse gas emission levels by 2020.
- Many California energy specialists believe that locking the state into long-term LNG contracts will result in the "crowding out" of renewable energy technologies like wind, solar, and biomass, and would slow California's critically-needed transition to these climate-safe, domestically produced energy sources.

### **DOES CALIFORNIA NEED LNG?**

- Experts say energy conservation, improved efficiency, and expanded use of renewable energy sources can satisfy California's energy needs.
- North America's conventional natural gas supplies are adequate to meet California's demand, and are currently priced far lower than imported LNG.
- Importing LNG may prevent California from meeting its renewable energy mandates.
- According to California Lt. Governor John Garamendi of the State Lands Commission, numerous factors indicate that LNG imports are not needed, including significant unused capacity in domestic natural gas pipelines, a decline in US demand for natural gas, and forthcoming regulations stemming from AB32, California's new law mandating statewide greenhouse gas reductions.

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**Take Action:** Your tax-deductible donations to Santa Barbara Channelkeeper and EDC will help ensure that the proposed NorthernStar LNG project is independently reviewed, and complies with all applicable environmental and public safety laws. Visit Channelkeeper ([www.SBCK.org](http://www.SBCK.org)) and EDC ([www.EDCnet.org](http://www.EDCnet.org)) on the web to make your contribution, and stay informed by signing up online to receive action alerts for upcoming hearings and events. For more information, phone Channelkeeper at 805/563-3377, or EDC at 805/963-1622.